



उत्पाद मैनुअल

घरेलू और समान विद्युत उपकरणों की सुरक्षा भाग 2 विशेष अपेक्षाएँ अनुभाग 80 पंखों आईएस 302 (Part 2/ Sec 80): 2017 के अनुसार

PRODUCT MANUAL SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES PART 2 PARTICULAR REQUIREMENTS SECTION 80 FANS according to IS 302 (Part 2/ Sec 80): 2017

यह उत्पाद नियमावली सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना-1 के अंतर्गत प्रमाणन के संचालन में एकरूपता और पारदर्शिता सुनिश्चित करने के लिए संदर्भ सामग्री के रूप में उपयोग की जाएगी। बीआईएस प्रमाणन प्राप्त करने के इच्छुक भावी आवेदक भी इस दस्तावेज़ का उपयोग कर सकते हैं।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification.

Note:		
i. In case a manufacturer is already having a valid licence for ceiling fans as per IS 374: 2019, then for those varieties which are in the scope of licence, the requirements for IS 302 (Part 2/ Sec 80): 2017 shall be deemed to be complied. Further, the manufacturer shall not be required to take separate licence as per IS 302 (Part 2/ Sec 80): 2017 for those varieties. ii. For other types of fans, i.e. Duct fans; Partition fans; Pedestal fans; Table fans, etc, manufacturer has to get BIS licence as per IS 302 (Part 2/ Sec 80): 2017.		
1.	मानक संख्या / IS No.	: IS 302 (Part 2/ Sec 80): 2017
	शीर्षक / Title	: Safety of Household and Similar Electrical Appliance Part 2 – 80 Particular Requirements for Fans
	संशोधनों की संख्या No. of amendments	: 2
2.	नमूनाकरण दिशानिर्देश / Sampling Guidelines	
a)	कच्चा माल Raw material	- Stampings for fan motors as per IS 648 or any other suitable low loss electrical sheet steel - Insulation cords as per IS 694 or IS 9968 (Part 1) - Capacitors for fan motors as per IS 2993 (Part 1) or IS 2993 (Part 2) Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.

b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का परिमाण Sample Quantity	:	1 no.
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request		Parameters given in scope of the licence. <i>Note: Apart from the above, any other requirements/ parameters may also be declared as per the standard, as applicable.</i>
3.	परीक्षण उपकरण की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण एवं परीक्षण योजना Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	• Marking (Cl.7) • Earth Continuity Test (A-1) • Electric Strength Test (A-2) • Functional test (A-3) • Protection against access to live parts (Cl. 8) • Power Input and Current (Cl. 10) • Heating (Cl. 11) • Leakage Current and Electric Strength at operating temperature (Cl. 13) • Mechanical Strength (Cl.21) • Provision for Earthing (Cl. 27) • Screws and connections (Cl. 28); • Resistance to heat and fire (Cl. 30); • Stability and Mechanical Hazards (Cl. 20). <i>Note: This section is for the guidance of BIS Certification Officers/ Technical Auditors of BIS Authorized Outside Surveillance Agencies(OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/ auditor.</i>
6.	लाइसेंस का दायरा /Scope of the Licence:		
Licence is granted to use Standard Mark as per IS 302 (Part 2/ Sec 80): 2017 with the following scope:			
Name of Product		Safety of Electrical fans	
Type		Pedestal fans/ Table fans/ Wall fans/ Duct fans/ Any other (to be declared by the manufacturer)	
Model No.			
Rating		____W,____V,____Hz,____Phase	
Class of Appliance		I/ II/ III	
Ingress Protection (IP)			
Insulation Class			
Grade		Pollution degree: __, Material group: __	

ANNEX -A

Grouping Guidelines

1. The IS 302 (Part 2/ Sec 80): 2017 deals with the safety of electric fans for household and similar purposes, their rated voltage being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE: For detailed scope, please see IS 302 (Part 2/ Sec 80): 2017.

2. This standard does not cover performance requirement nor does it apply to household kitchen fans, air heaters required with fans, heating, ventilating units, mechanical refrigeration equipment or air conditioners.
3. Manufacturer shall declare the parameters defined in the scope of licence of each electrical fan produced by them along with a model number and design/ photographs.
4. For grant of licence/ change in scope of licence, each model of fan is to be tested. Change in aesthetics, that is colour, visual design etc. may not be treated as different model.
5. However, following relaxation in testing is given for grant of licence/ change in scope of licence:
 - i. If fan model of higher insulation class is tested, then model(s) of lower insulation class may be covered subject to condition that all other parameters specified in the scope remain same.
 - ii. If a fan model with a particular Ingress Protection (IP) is tested, models with lower Ingress Protection (IP) may also be covered subject to condition that all other parameters specified in the scope remain same.
 - iii. If fan model with speed regulator / remote control device is tested, fan models without speed regulator/remote control device may also be covered subject to condition that all other parameters of rating remain same.
 - iv. If one model is tested for EMI/EMC requirements (if applicable) as per clause 19.11.4 of IS 302 (Part 2/ Sec 80), other models may be covered in the scope of the licence without EMI/EMC testing provided the tested model is having the maximum features among the models to be covered in the licence. A declaration may be submitted by the manufacturer to this effect.
6. The Firm shall declare the models of various electric fans they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing capability and the Testing facilities of the Manufacturer.
7. During the operation of the Licence, BO shall ensure that all the models covered in the Licence are tested in rotation to the extent possible.
8. Manufacturer shall declare the type/ designation etc. of accessories (regulator, remote control) compatible with the fan.

ANNEX- B
List of Test Equipments
(Indicative List, For Guidance Only)

Sl. No.	Test Equipment	Clause Reference
1	Petroleum spirit, Cloth, Stopwatch	Cl. 7 (Marking and instruction)
2	Test probe-B, Test Probe-13, Test probe-41, Push-Pull Gauge, Voltmeter, Finger Test Apparatus	Cl. 8 (Protection against access to live parts)
3	Voltmeter, Ammeter, Wattmeter, Variable voltage input supply	Cl. 10 (Power Input and current)
4	Test Corner consisting of dull-black painted plywood, Thermometer/ Temperature Sensor with Indicator, Wattmeter	Cl. 11 (Heating)
5	IR Meter, Micro ammeter, HV Tester, Metal foil, Stopwatch	Cl. 13 (Leakage Current and Electric Strength)
6	Humidity Test Chamber	Cl. 15 (Moisture resistance test)
7	Micro ammeter, HV Tester, Metal foil, Stopwatch	Cl. 16 (Leakage Current and Electric Strength)
8	Watt-meter, Voltmeter, Temp indicator, Test Corner, Felt Strips, Copper/brass disks	Cl. 19 (Abnormal Operation)
9	Inclined Plane, Angle finder	Cl. 20 (Stability and mechanical Hazards)
10	Spring Hammer, Finger Test Apparatus	Cl. 21 (Mechanical Strength)
11	Test probe-B, Test probe-13, Test probe-41, Push-pull Gauge, Hot Air Oven, Stop watch, Voltmeter, Multi meter, Vernier Caliper	Cl. 22 (Construction)
12	Flexing Test Apparatus, HV tester, Metal Foil, Stop watch	Cl. 23 (Internal Wiring)
13	LCR meter, Endurance test apparatus	Cl. 24 (Components)
14	Cord Grip Test Apparatus, Measuring Tape, Micro ohmmeter, HV tester, Metal foil, Cord flexing test apparatus, Push pull gauge	Cl. 25 (Supply connections and External Flexible Cables and Cords)
15	Torque Screwdriver	Cl. 26 (Terminal for external Conductors)
16	Earth Contact Resistance Testing Panel (ECR Measurement), Voltmeter, Ammeter	Cl. 27 (Provision for Earthing)
17	Torque Wrench	Cl. 28 (Screw and connections)
18	Filler Gauge, Vernier Caliper, Micrometer	Cl. 29 (Creepage distances and Clearances and distances through insulation)
19	Glow Wire Test Apparatus, Oven, Ball Pressure Apparatus, Heating Oven with temperature controller	Cl. 30 (Resistance to Heat and Fire)
20	Humidity Chamber with temperature and humidity controller, Measuring cylinder, Ammonium chloride, Carbon Tetrachloride, Distilled Water	Cl. 31 (Resistance to Rusting)
21	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature	Cl.17 (Overload protection of transformers and associated circuits)
22	Impulse voltage test generator and monitor	Cl. 14 (Transient voltages)
23	Air conditioner	To maintain ambient temperature

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that during operation of BIS licence manufacturers will implement a Quality Assurance Plan (QAP) i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or sub-contracting/ sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 Recommended Levels of Control/ Control Unit:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *All electric fans of same model no. manufactured in a day* shall constitute a control unit.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING

The manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/ empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 Test Records- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. PACKING AND MARKING

The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on **each fan and also on its packaging** provided always that the product so marked conforms to each requirement of the specification.

3.1 Marking on each fan shall be done as per Cl. 7 of IS 302 (Part 2/ Sec 80): 2017.

3.2 **Additional Marking requirements:** The product shall also be marked with the following additional requirement on packaging:

a) "For BIS certification details please visit www.bis.gov.in"

3.3 Instructions shall be provided with each electric fan as per requirements prescribed at Cl. 7.12 of the IS 302 (Part 2/ Sec 80): 2017.

4. REJECTION

The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE-1
(Recommended Levels of Control by BIS- for Guidance Only)

(1)				(2)		
Test Details				Levels of Control		
Cl.	Requirement	Test Methods		No. of Sample	Frequency	Remarks
		Clause	Ref			
24	Components	24	IS 302-1 IS 302-2-80	Each consignment	No further testing required, if supplied with test certificate or BIS Standard Mark.	
7	Marking	7	IS 302-1 IS 302-2-80	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
5.1	Earth continuity test	A-1	IS 302-1	Each product		
5.1	Electric strength test	A-2				
5.1	Functional test	A-3				
8	Protection Against Electric Shock	8		Each product		
10	Power Input and Current	10		Each product		
11	Heating	11		One	Every month for each model	
13	Leakage current and Electric strength at operating temperature	13	IS 302-1	One	Each control unit	
27	Provision for earthing	27	IS 302-1 IS 302-2-80	One	Each control unit	
14	Transient Over-voltages	14	IS 302-1	One	Every six months for each model manufactured during the period	
15	Moisture Resistance	15	IS 302-1 IS 302-2-80	One		
16	Leakage current and Electric strength	16	IS 302-1	One		
17	Overload protection of transformers and associated circuits	17	IS 302-1	One		
19	Abnormal operation	19	IS 302-1 IS 302-2-80	One		
20	Stability and Mechanical hazards	20		One		
21	Mechanical strength	21		One		
22	Construction	22		One		
23	Internal wiring	23		One		
25	Supply connection and external flexible cables and cords	25		One		
26	Terminals for external conductors	26	IS 302-1	One		
28	Screws and connections	28	IS 302-1	One		
29	Creepage distances, clearances and distances through insulation	29	IS 302-1 IS 302-2-80	One		
30	Resistance to heat, fire and tracking	30		One		
31	Resistance to rusting	31		One		
32	Radiation, Toxicity and Similar Hazards	32	IS 302-1	One		